Research Article

Dizziness in Basra Using New Diagnostic Technique; Types and Personal Characteristics

Dr. Dhiaa Mohammed Yaseen[1],*Dr. Shukrya Al-maliki[2],Prof. Ahmed Mohammed Al- Abbasi[3]

[1]Audio vestibular Physician, M.B.Ch.B MSc. of Audiology, Al Sadar Teaching Hospital, Hearing and Balance Center.

[2]Assistant prof @department of Community Medicine, College of Medicine, Basrah. FRACGP, specialist family physician.

[3]Professor of otolaryngology. University of Basrah .M.B.Ch.B/- F.R.C.S. (ORL- Head &Neck Surgery)

Abstract:

Background ; There is no superior investigative or curative challenge in medicine than the perfect diagnosis and efficient management of the patient suffering from dizziness.

Objective ; was to understand the types of the dizziness in Basrah city in order to improve clinical care and knowledge

Method ;cross section study was done at Hearing and Balance Center in Basrah during the period from September 2016 to May 2017. Two hundred and seventy-four (274) consecutive patients with dizziness who referred to this center during this period were included in the study.

Socio-demographic and clinical information were inquired about, using a special questionnaire designed for the purpose of the study. Otologic and audio-vestibular evaluation was done including otoscopy, tympanometry, (OAEs), (PTA), vHIT, Oculomotor tests, positional test, cVEMP, oVEMP and (ECochG).

Results ; BPPV was the most common type among dizzy patients, with the Percentage of 34.7%. Males were 45.3 % male and female were 54.7 %. prevalence of Meniere's disease was 7.3 %, Also the prevalence of Vestibular Neuritis is 9.9 %, chronic fixed vestibular hypo function was 10.6 %.

Conclusion ; dizziness is common problem in our society, females affected more than males, it is important to address the type of dizziness to treat it properly.

Introduction

There is no superior investigative or curative challenge in medicine than the perfect diagnosis and efficient management of the patient suffering from dizziness [1]. Vertigo and dizziness are not single disease things. Occasionally vertigo is attributed to vestibular illnesses, while dizziness is not. There is, nevertheless, no general settlement, visual stimuli can cause vertigo while central vestibular or otolith disorders can produce dizziness [2]. Dizziness includes vertigo and non-vestibular disorder touching 20-30% of the common population [3]. Vertigo is the illusion of rotational motion, while unsteadiness is the syndrome of postural imbalance, both of these symptoms commonly occur with lesions of the vestibular system [4]. Asymmetric contribution of this baseline activity anywhere in the peripheral and central vestibular routes leads to misapprehension of movement [5]. Vestibular disorder classified into alterable vestibular disease, fixed vestibular deficits, central vestibular disease and mixed vestibular disorders (that affect central and peripheral vestibular function)[1]. However, the prevalence of

vestibular problem in clinical sitting in Iraq is still unknown. The auditory and vestibular end organs are neighbors, kept within the same bony labyrinth of the temporal lobe disorder that affects one may affect the other. A number of conditions that cause hearing loss can also cause balance disorders of a vestibular nature so the audiological assessment is very important in evaluation patients with vestibular disorder. Although the two often occur collected, they can occur in separation [6]. The Vestibular testing is being updated by Video Head Impulse Test (vHIT) and when the results for vHIT are joined with the results of new ocular and cervical vestibular evoked myogenic potential (oVEMP And cVEMP) test it is possible to measure the function of all vestibular sense organs [7]. With this vHIT it is possible to measure the gain of vestibulo-ocular reflex (VOR) and to register eventual refixation saccades with stimulation (head impulses) that obtain high velocity and quickening. This system is good not only for preliminary assessment of the patients but also for follow up [8]. Also the ocular motility testing can be

used to pinpoint lesions to the central nervous system. While positioning and positional tests delivers essential knowledge in the assessment and supervision of the patient with dizziness [6]. Electrocochleography (ECochG) also used in diagnosis of Meniere's disease /endolymphatic hydrops and the use of SP and AP area measurements has significantly improved the sensitivity of ECochG in the diagnosis of Meniere's disease while preserving high specificity [9]. All these tests permits for a more robust useful assessment of the labyrinth as a whole, resulting in better curative guidance and improved outcomes for patients [10]. So best clinical practice is detailed assessment of the patient to make a correct diagnosis, applicable and when possible evidence base specific drug treatment of pathology giving rise to the vestibular disorder [4].

Aim of the Study; was to understand the types of the dizziness in Basrah city in order to improve clinical care and knowledge.

Subjects and Method

This cross-sectional study was done at Hearing and Balance Center in Basrah during the period from September 2016 to May 2017. Two hundred and seventy-four (274) consecutive patients with dizziness who referred to this center during this period were included in the study.

Socio-demographic and clinical information were inquired about, using a special questionnaire designed for the purpose of the study. Otologic and audio-vestibular evaluation was done including otoscopy, tympanometry, (OAEs), (PTA), vHIT, Oculomotor tests, positional test, cVEMP, oVEMP and (ECochG) . Audiometry was done using the audiometer Ittera 2 device (manufactured by GN otometrics Madsen-Denmark, Serial Number 183422 with specifications arranged according to American National Standards Institute for measurements [11] (ANSI s3.6 1996). The tympanometry performed using otoflix 100 tympanometer manufactured by GN otometrics Madsen Company – Denmark, Serial Number 183423. OAEs were performed using a Capella 2 manufactured by GN otometrics Madsen Company – Denmark; Serial Number 1250-1.1.vHIT System used Otosuite Vestibular software version 300 build 1007 with feature monocular video frenzel, oculomotor test, positional test. Lateral, RALP and LARP Head Impulse System coggles SN: 183420. The cVEMP, oVEMP and ECochG performed using Eclips manufactured by Interacoustics\Denmark, SN 0943354.

Statistical analysis

Data analysis was done using Statistical Package for Social Sciences version 20. Data were tabulated. Frequencies and proportions were calculated for categorical data.

Results;

Figure 1 the percentage of total male to female in the studied population
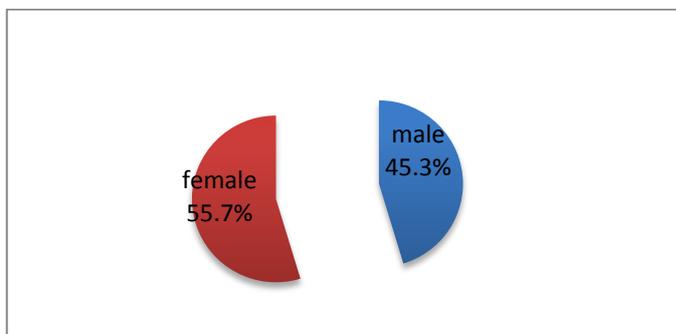
Table 1 gender distribution of types of dizziness

Type of dizziness	Male N (%)	Female N (%)	Total (N%)
BPPV	36(29)	59(39.3)	95(34.7)
Chronic unilateral fixed vistibulopathy	22(17.7)	7(4.7)	29(10.60)
Vestibular neuritis	14(11.3)	13(8.7)	27(9.9)
Central vestibular abnormality	9(7.3)	12(8.0)	21(7.7)
Meniere's disease	5(4.0)	15(10.0)	20(7.3)
Vestibular migraine	6(4.8)	11(7.3)	17(6.2)
Bilateral vistibulopathy	4(3.2)	5(3.3)	9(3.3)
Acute labrynthitis	3(2.4)	4(2.7)	7(2.6)
otosclerosis	0(0.0)	3(2.0)	3(1.1)
Vestibular paraxymia	0(0.0)	19(0.7)	1(0.4)
Non vestibular	25(20.2)	20(13.3)	45(16.4)

Table 2 Age distributions of types of patients with dizziness

Type of dizziness	≥ 20years N (%)	21-55 years N (%)	≤56 years N (%)	Total (N%)
BPPV	14(29.8)	37(46.8)	44(29.7)	95(34.7)
Chronic unilateral fixed vistibulopathy	3(6.4)	7(8.9)	19(12.8)	29(10.60)
Vestibular neuritis	4(8.5)	9(11.4)	14(9.5)	27(9.9)
Central vestibular abnormality	4(8.5)	4(5.1)	13(8.8)	21(7.7)
Meniere's disease	4(8.5)	5(6.3)	11(7.4)	20(7.3)
Vestibular migraine	4(8.5)	3(3.8)	10(6.8)	17(6.2)
Bilateral vistibulopathy	3(6.4)	1(1.3)	5(3.4)	9(3.3)
Acute labrynthitis	2(4.3)	1(1.3)	4(2.7)	7(2.6)
otosclerosis	09(0.0)	0(0.0)	3(2.0)	3(1.1)
Vestibular paraxymia	0	1	0	1(0.4)
Non vestibular	9(19.1)	11(13.9)	25(16.9)	45(16.4)

Discussion

A total of 274 patients were included in the present study. Males were 45.3 % and female were 54.7 %(table 1). This study revealed that BPPV the most common type among dizzy patients, there are two types of BPPV canalithiaisis and cupulolithiasis. BPPV can affect all three SCC (Anterior – posterior – lateral SCC), in this study the most common type of BPPV is the canalithiasis of posterior SCC. The Percentage of BPPV among dizzy patients is 34.7%. This comparable with the result obtained by (Wang,Hui)[12]. The causes of BPPV can be primary or secondary; it was reported that it may caused by vestibular neuritis, menieres disease, head trauma and vestibular migraine, but the most common causes are idiopathic( ) . Vestibular Migraine (VM) is one of causes of dizziness, which associated with varying sensation of dizziness, nausea, and vomiting, and auditory symptoms. One of the ways that VM can present is a positional vertigo which can make it similar to history of BPPV, and should be distinguished migrainous positional vertigo from BPPV. In the last three decades the problem in VM was lacked of a universally accepted definition. Recently, diagnostic criteria which addressed in 2014 in International Headache Society and Barany Society was as follow: (1) at least 5 episodes of vestibular symptoms lasted 5 m -72hrs, (2) one or more of the following: Headache, photopobia or phonopobia , migraine visual aura,(3) current or prior history of migraine, (4) not explained by another vestibular disorder Or ICHD[13], in the present study the prevalence of vestibular migraine was 6.2%. As shown in Table (2). This accentual the result obtained by (Yuri Agrawal, Byrank)[14]. And the prevalence of Menieres disease is 7.3 %. As shown in Table (2) . This asserted the result of (Wasaki, Schinichi,Yamasoba)[15]. Most of the cases of Vestibular Neuritis (VN) presented with acute stage (static phase) they represent 9.9 %, this goes with result of (Neuhauser H, Leopold)[16]. While other group of VN present with chronic fixed vestibular deficits, most of these patients present with dynamic phase because they continue on vestibular sedations for long durations without vestibular rehabilitations therapy. Any vestibular disease can cause chronic fixed vestibular deficits, in this study VN was the most common cause. The prevalence of chronic fixed vestibular deficits is 10.6 %. Other otological causes of dizziness is Bilateral Vestibular Lesions (BVL) caused by different pathologies the most common cause in this study is the history of ototoxicity, BVL represented 3.3% in the current study. This agreed with result of (Michael Strupp,)[2]. labyrinthitis found in 2.6% and otosclerosis in 1.1% of the studied patients. Many causes was reported in central vestibular or neurological abnormalities such as stroke and TIA , neurodegenerative diseases, vascular insufficiencies, neoplasms and infections which can affect the central vestibular pathway, in the present study the prevalence of neurological causes of dizziness is 7.7 %. This asserted with result of (Kroenke K, Hoffman R.M,)[17]. Non-vestibular dizziness is represent neither otological nor neurological cause of dizziness that addressed above and it has many causes like; cardiac arrhythmia , low blood pressure, blood disorder(anemia), hypoglycemia(diabetes), hypothyroidism, vitamin deficiency. Another group of nonvestibular dizziness is psychogenic dizziness like chronic subjective dizziness, panic disorder and somatization disorder. Other groups of non vestibular is multisensorial abnormalities associated with aging, malingering and drugs side effect. The prevalence of non-vestibular dizziness was 16.4%, this is clearly illustrated in table 2, this results is comparable with result of (Gopinath D)[18].

Conclusion ;

We concluded that dizziness is common problem in our society, females affected more than males, it is important to address the type of dizziness to treat it properly, in the present study, BPPV is the commonest type of dizziness, followed by unilateral fixed vestibulopathy, and vestibular neuritis, while considerable number of dizzy patient have non vestibular disorders.

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